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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,005	07/11/2003	Richard B. Rehrig	086332.1	4380
34261	7590	10/06/2005		
HOLLAND & KNIGHT LLP 633 WEST FIFTH STREET, TWENTY-FIRST FLOOR LOS ANGELES, CA 90071-2040			EXAMINER MAYO III, WILLIAM H	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

**Office Action Summary**

Application No.

10/618,005

Applicant(s)

REHRIG, RICHARD B.

Examiner

William H. Mayo III

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/13/05 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 9, 2005 has been entered.

### ***Drawings***

2. The drawings were received on January 13, 2005. These drawings are not approved because Figures 2-4 lack the proper cross-hatching which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate the conductor is improper. The applicant should refer to MPEP Section 608.02 for the proper cross-hatching of materials. Correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1, 3, 5, 11, 13, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Eng (Pat Num 4,310,718). Eng discloses a power cable assembly (Figs 1-3) capable of being utilized in a water-cooled welding apparatus for conveying power from welding machine to a welding torch and cooling water from the torch to a circulator reservoir (Col 1, lines 4-23). Specifically, with respect to claim 1, Eng discloses a power cable assembly (Fig 1) comprising a flexible electrical conductor (3) formed of bunched wires (2), a layer of flexible material (5) substantially encasing the conductor (3) and defining a plurality of projections (6) extending radially therefrom (Col 1, lines 50-55) and an outer flexible conduit (1) disposed about the conductor (3) and the encasing layer (5), wherein the projections spaces the conduit (1) from the conductor (3) to define a water flow path (9 & 10) extending along the conduit (1) and surrounding the conductor (3) for the effective dissipation of heat in the conductor (3, Col 2, lines 21-34). With respect to claim 3, Eng discloses that the radial projections (6) are integrally formed with the layer of flexible material (5, Col 1, lines 50-55). With respect to claim 5, Eng discloses that the projections (6) abut the flexible conduit (1) at interior projections (1a) so as to position the conductor (3) in substantial axial alignment with the conduit (1) to provide a substantially uniform water flow about the conductor (3, Cols 1-2, lines 64-68 & 1-2 respectively). With respect to claim 11, Eng discloses a power cable assembly (Figs 1-3) capable of being utilized in air cooled welding apparatus for conveying power and inert gas to a welding torch (Col 1, lines 4-23), wherein the power cable assembly (Fig 1) comprising a flexible electrical conductor (3) formed of bunched wires (2), a layer of flexible material (5) substantially encasing the conductor (3) and defining a plurality of

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projections (6) extending radially therefrom and an outer conduit (1) disposed about the conductor (3) and defining a plurality of projections (6) spacing the conduit (1) from the conductor (3) so as to define a gas flow path (9 & 10) extending along the conduit (1) and surrounding the conductor (3, Fig 1). With respect to claim 13, Eng discloses that the radial projections (6) are integrally formed with the layer of flexible material (5, Col 1, lines 50-55). With respect to claim 15, Eng discloses that the projections (6) abut the flexible conduit (1) at interior projections (1a) so as to position the conductor (3) in substantial axial alignment with the conduit (1) a substantially uniform gas flow about the conductor (3, Cols 1-2, lines 64-68 & 1-2 respectively). With respect to claim 17, Eng discloses that the radial projections (6) are integrally formed with the layer of flexible material (5, Col 1, lines 50-55).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 4, 6-10, 12, 14, and 16-24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Eng (Pat Num 4,310,718) in view of Madry (DE Pat Num 36 32 722A1). Eng discloses a power cable assembly (Figs 1-8) capable of being utilized in a water cooled welding apparatus for conveying power from welding machine to a welding torch and cooling water from the torch to a circulator reservoir (Col 1, lines 13-50) as

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disclosed above with respect to claims 1 & 11. Specifically, with respect to claims 7 & 17, Eng discloses that the radial projections (6) are integrally formed with the layer of flexible material (5, Col 1, lines 50-55). With respect to claim 9, Eng discloses that the power cable assembly (Fig 1) comprises an outer flexible conduit (1), a flexible electrical conductor (3) formed of bunched wires disposed within the conduit (2, Fig 1), a layer of flexible material (5) encasing the conductor (3) and a plurality of projections (6) extending radially therefrom (Fig 1) from encasing layer (6) and spacing the conductor (3) and encasing layer (5) from the outer flexible conduit (1) so as to define a water flow path within the conduit extending along the conduit (1) and surrounding the conductor (3) to define a water flow path (9 & 10) extending along the conduit (1) and surrounding the conductor (3) for the effective dissipation of heat in the conductor (1, Col 2, lines 21-34) and a pair of end fittings (not numbered, Col 1, lines 35-40, connected to a movable welder implies that the cable is connected). With respect to claim 10, Eng discloses that the radial projections (6) are integrally formed with the layer of flexible material (5, Col 1, lines 50-55). With respect to claim 19, Eng discloses that the power cable assembly (Fig 1) comprises an outer flexible conduit (1), a flexible electrical conductor (3) formed of bunched wires disposed within the conduit (2, Fig 1), a layer of flexible material (5) encasing the conductor (3) and a plurality of projections (6) extending radially therefrom (Fig 1) from encasing layer (5) and spacing the conductor (3) and encasing layer (5) from the outer flexible conduit (1) so as to define a gas flow path within the conduit (1) extending along the conduit (1) and surrounding the conductor (3, Col 2, lines 21-34) and a pair of end fittings (not numbered) capable of securing the

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power cable assembly between the welding torch and welding machine in fluid and electrical communication (Col 1, lines 35-40, connected to a movable welder implies that the cable is connected). With respect to claim 20, Eng discloses that the radial projections (6) are integrally formed with the layer of flexible material (5, Col 1, lines 50-55). With respect to claim 21, Eng discloses that the power cable assembly (Fig 1) may have a pair of end fittings (not numbered) capable of being utilized in a water cooled apparatus (Col 1, lines 4-24), the assembly comprising an outer flexible conduit (1), a flexible electrical conductor (3) formed of bunched wires (2) disposed within the conduit (1, Fig 1), a layer of flexible material (5) encasing the conductor (3) and a plurality of projections (6) extending radially therefrom (Fig 1) from encasing layer (5) and spacing the conductor (3) and encasing layer (5) from the outer flexible conduit (1) so as to define a water flow path within the conduit extending along the conduit (1) and surrounding the conductor (3) to define a water flow path (9 & 10) extending along the conduit (1) and surrounding the conductor (3, Col 2, lines 21-34). With respect to claim 22, Eng discloses that the radial projections (6) are integrally formed with the layer of flexible material (5, Col 1, lines 50-55).

However, Eng doesn't necessarily disclose the flexible material being a plastic material having a thickness within the range of about 0.008-0.015 inches (claims 2, 4, 6, 8-10, 12, 14, 16, 18-19, and 23-24).

Madry teaches a high voltage power cable (Figs 1-2) that reduces capacitance thus enabling fast current and voltage changes (see basic abstract 2 & 3). Specifically, Madry teaches a cable (Fig 1) comprising a flexible material (3) having projections (4)

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which is surrounded by a conduit (5), wherein the projections (4) create passages (6) for the cooling of the cable (Fig 1), and wherein the flexible material (3) is made of a plastic material (i.e. polyethylene) having a thickness (see abstract, Fig 1).

With respect to claims 2, 4, 6, 8-10, 12, 14, 16, 18-19, and 23-24, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Eng to comprise the flexible plastic material configuration as taught by Madry because Madry teaches that such a configuration reduces capacitance thus enabling fast current and voltage changes (see basic abstract 2 & 3) and since it has been held to be within general skill of a worker in the art to select a known material, such as polyethylene, on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claims 2, 4, 6, 8-10, 12, 14, 16, 18-19, and 23-24, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the flexible material plastic material of modified Eng to comprise thickness within the range of about 0.008-0.015 inches, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### ***Response to Arguments***

7. Applicant's arguments filed September 9, 2005 have been fully considered but they are not persuasive. The applicant argues the following:



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- A) While the structure of Eng device look quite similar to the Applicant's Cable, the fact is that the Eng device is very different and doesn't obtain the advantages of the Applicant's novel power cable.
- B) The Eng device would be more expensive to produce and therefore doesn't realize the advantages of the claimed invention.
- C) The spacer of Eng doesn't substantially encase the conductor as claimed by the applicant and therefore cannot anticipate or render the claimed invention obvious.
- D) The projections of Eng doesn't disclose fluid paths and therefore cannot anticipate or render the claimed invention obvious.

With respect to arguments A & B, the examiner respectfully traverses. The fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Specifically, while the applicant may feel that the claimed invention has specifically characteristics, the fact is that the claimed structure of the claimed invention and the prior art are the same as currently claimed and therefore would exhibit the same characteristics as the claimed invention. If the applicant feels that the prior art reference lacks the structure that is responsible for the advantages, then he./she should claim that specific structure.

With respect to argument C, the examiner respectfully traverses. Firstly, the examiner would state that the term "substantially" is a relative term and doesn't

constitute that the spacer completely encase the conductor. Specifically, the MPEP states:

D. "Substantially"

The term "substantially" is often used in conjunction with another term to describe a particular characteristic of the claimed invention. It is a broad term. In *re Nehrenberg*, 280 F.2d 161, 126 USPQ 383 (CCPA 1960). The court held that the limitation "to substantially increase the efficiency of the compound as a copper extractant" was definite in view of the general guidelines contained in the specification. In *re Mattison*, 509 F.2d 563, 184 USPQ 484 (CCPA 1975). The court held that the limitation "which produces substantially equal E and H plane illumination patterns" was definite because one of ordinary skill in the art would know what was meant by "substantially equal." *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988).

Therefore, while the prior art reference doesn't illustrate the spacer completely encasing the conductor, it clearly illustrate the spacer substantially encasing the conductor and therefore the claimed limitation is met by the prior art reference.

With respect to argument D, the examiner respectfully traverses. As detailed above, Eng discloses a power cable assembly (Fig 1) comprising a flexible electrical conductor (3) formed of bunched wires (2), a layer of flexible material (5) substantially encasing the conductor (3) and defining a plurality of projections (6) extending radically therefrom (Col 1, lines 50-55) and an outer flexible conduit (1) disposed about the conductor (3) and the encasing layer (5), wherein the projections spaces the conduit (1) from the conductor (3) to define a water flow path (9 & 10) extending along the conduit (1) and surrounding the conductor (3) for the effective dissipation of heat in the conductor (3, Col 2, lines 21-34). While the examiner admits

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that the water flow path is not identical to the applicants, it does meet the claimed structure. If the applicant feels that the prior art reference structure is structurally different than the claimed structure, then he./she should claim that specific structure.

### ***Communication***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
William H. Mayo III  
Primary Examiner  
Art Unit 2831